

CLAIMS:

Claims

What is claimed is:

1. A system for a searching data set to identify data elements within said data set that meet
5 user defined search criteria, the system comprising:

a network file system server;

a data search engine server communicating with the network file system server, said data
search engine server including a data storage memory;

a query distributor configured to send search queries to the data search engine server; and

a data set stored on the network file system server in a manner such that said data search
engine server may selectively access and transfer portions of the data set to the data storage
memory of the data search engine server, where the data search engine server identifies data
elements within the accessed portions of the data set that meet the user defined search criteria.

2. The system for searching data of claim 1, wherein the data set stored on the network file
system server includes air carrier fare and schedule data for flights between a plurality of
origination and destination locations.

3. The system for searching data of claim 2 wherein the user defined search criteria include
20 an origination location, a destination location, and a date of travel.

4. The system for searching data of claim 3, wherein the portions of the data set accessed by
the data search engine server comprise flight schedule and fare data for airline flights between

the origination location and destination location on the date specified in the user defined search criteria.

5. The system for searching data of claim 1, wherein the data storage memory of the data
5 search engine comprises a random access memory.

6. The system for searching data of claim 1 wherein the data storage memory comprises a disc-less storage device.

7. The system for searching data of claim 1, further comprising a plurality of data search engine servers communicating with the network file system server.

8. The system for searching data of claim 1 further comprising a plurality of network file system servers and a plurality of data search engine servers communicating with each network file system server.

9. A system for loading airline fare and schedule data to a low fare search system configured to process travel requests and present flight data including fare and schedule data for flights meeting criteria specified in a user request, the system comprising;

20 a fare and schedule master database adapted to receive and store airline fare and schedule data for a plurality of airline flights;

a first file transfer server adapted to receive fare schedule and availability data from the master database, the file transfer server including a first flag indicating whether new data have been received from the master database;

5 a fare load master server configured to monitor the flag, and request a file transfer of new fare and schedule data when the flag indicates that new fare and schedule data have been received by the master database;

a network file system server communicating with the fare load master server, the fare load master server configured to transfer fare and schedule data received from the FTP server to the network file system server, said network file system server simultaneously storing an old fare and schedule data set and a new fare and schedule data set; and

a low fare search engine server communicating with the network file system server, the low fare search engine server being configured to simultaneously operate a first search process for processing user queries searching the old fare and schedule data set and a second search process for processing user requests searching the new fare and schedule data set.

10. The system of claim 9, further comprising a query distributor configured to receive user queries and direct the low fare search engine server to process individual queries using one of the old fare and schedule data set and the new fare and schedule data set.

20 11. The system of claim 10 further comprising a global distribution system adapted to receive fare and schedule data corresponding to the fare and schedule data received by the master database, the global distribution system including a second flag monitored by the fare load master server for indicating whether the global distribution system is operating on new data

corresponding to the new fare and schedule data set received by the fare and schedule master database.

12. The system of claim 11 wherein the fare load master server is configured to alert the query distributor when the global distribution system begins operating on the new data corresponding to the new fare and schedule data set received by the fare and schedule master database, the query distributor directing search queries to the low fare search engine server processes operating on the old fare and schedule data set prior to receiving the alert, and directing queries to the low fare search engine server processes operating on the new fare and schedule data set thereafter.

13. The system of claim 9, wherein the low fare search engine server includes a random access memory for storing data corresponding to said old fare and schedule data set, and said new fare and schedule data set.

14. The system of claim 13, further comprising a plurality of low fare search engines servers.

15. The system of claim 14, further comprising a plurality of network file system servers, each network file system server supporting at least one low fare search engine servers.

16. A method of loading updated fare and schedule data on a system configured to search such data for available airline flights and fares meeting user defined criteria, the method comprising the steps of:

providing a fare and schedule master database adapted to receive and store airline fare and schedule data for a plurality of airline flights;

providing a file transfer protocol server adapted to receive fare schedule and availability data from the master database, said FTP server including a control flag indicating that new data have been received by the master database;

providing a fare load master server configured to monitor the control flag, and request a file transfer of a new fare and schedule data set when the control flag indicates that a new fare and schedule data set has been received by the master database;

providing a network file system server communicating with the fare load master server, the fare load master server configured to transmit the new fare and schedule data set to the network file system server, said network file system server adapted to store an old fare and schedule data set and the new fare and schedule data set simultaneously; and

providing a low fare search engine server in communication with the network file system server, the low fare search engine server configured to run search processes for searching the old fare and schedule data set and the new fare and schedule data set simultaneously.

17. The method of claim 16, further comprising the step of providing a query distributor configured to receive user queries and direct the low fare search engine server to process individual queries using one of the processes for searching the old fare and schedule data set, and the process for searching the new fare and schedule data set.

18. The method of claim 17, further comprising the step of monitoring a global distribution system adapted to receive fare and schedule data corresponding to the fare and schedule data set

received by the master database, the global distribution system including a second control flag monitored by the fare load master server, the second control flag indicating whether the global distribution system is operating on new data corresponding to the new fare and schedule data set received by the fare and schedule master database.

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19. The method of claim 18, further comprising the step of configuring the fare load master server to alert the query distributor when the global distribution system begins operating on the new data corresponding to the new fare and schedule data set received by the fare and schedule master database, the query distributor directing search queries to the low fare search engine server process using the old fare and schedule data set prior to receiving the alert, and directing search queries to the low fare search engine process using the new fare and schedule data set thereafter.

20. The method of claim 19, wherein the step of providing a low fare search engine comprises providing a low fare search engine having an internal disc-less storage memory for storing data corresponding to said old fare and schedule data set and said new fare and schedule data set.

21. The method of claim 20, wherein the step of providing a low fare search engine comprises providing a plurality of low fare search engine server.

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22. The method of claim 21, wherein the step of providing a network file system server comprises providing a plurality of network file system servers, each network file system server supporting at least one low fare search engine server.

5 23. A method of loading a new data set on a system configured to search a data set for data that meet user defined search criteria, wherein the system includes a master database, a data loading master server, a network file system server, a search engine operable to simultaneously process search queries on an old data set and on a new data set simultaneously, the method comprising the steps of:

receiving a new data set and storing the new data set in the master database;

setting a flag to indicate that the new data set is available;

requesting a file transfer from the master data base to the data loading master server when the flag indicates that the new data set is available and transferring the new data set to the data loading master server;

15 transferring the new data set from the data loading master server to the network file system server;

running a first search process searching the old data set;

running a second search process searching the new data set;

processing queries in response to user search requests using the first search process prior

20 to receiving a command to switch to a new data set; and

processing queries in response to user requests using the second search process after receiving the command to switch to the new data set.

24. The method of loading a new data set on a system configured to search a data set for data that meet user defined search criteria of claim 23, wherein the system further includes a global distribution system, the method further comprising the steps of:

monitoring the global distribution system to determine whether the global distribution

5 system is operating with data corresponding to the old data set or the new data set;

issuing the command to switch to the new data set when the global distribution system begins operating with data corresponding to the new data set.

25. The method of claim 24, wherein the data comprising the old and new data sets comprise airline flight schedule and fare data.

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